LIST OF CONTENTS

Number 1

H. Lemonnier and **S. Selmer-Olsen**	1	Experimental investigation and physical modelling of two-phase two-component flow in a converging–diverging nozzle
J. M. Nouri and **J. H. Whitelaw**	21	Particle velocity characteristics of dilute to moderately dense suspension flows in stirred reactors
B. A. Gabaraev, E. K. Karasyev, O. Yu. Novoselsky, S. Z. Lutovinov, L. K. Tickhonenko and **E. O. Trubkin**	35	An experimental investigation of mass flow characteristics of Laval nozzles with transversal injection through an annular slot in the side wall
K. Raghunathan, S. Kumar and **L.-S. Fan**	41	Pressure distribution and vortical structure in the wake behind gas bubbles in liquid and liquid–solid systems
K. Zhang, A. Acrivos and **U. Schaflinger**	51	Stability in a two-dimensional Hagen–Poiseuille resuspension flow
C. Pauchon and **P. Smereka**	65	Momentum interactions in dispersed flow: an averaging and a variational approach
Ch. Malamatenios, K. Giannakoglou and **K. D. Papailiou**	89	An integral shear layer method for the numerical prediction of steam–droplet flows
N. Brauner and **D. Moalem Maron**	103	Stability analysis of stratified liquid–liquid flow
N. Brauner and **D. Moalem Maron**	123	Flow pattern transitions in two-phase liquid–liquid flow in horizontal tubes
Brief Communications		
Y. H. Mori and **T. Mochizuki**	141	Explicit expressions for volume of drops released from submerged nozzles: their derivation from semiempirical implicit correlations
R. Mei	145	An approximate expression for the shear lift force on a spherical particle at finite Reynolds number
H. J. Zhang, S. J. Lu and **G. Z. Yu**	149	An investigation of two-phase flow measurement with orifices for low-quality mixtures
	157	Book Review
	I	Announcements

Number 2

Y. Hardalupas, A. M. K. P. Taylor and J. H. Whitelaw	159	Characteristics of the spray from a diesel injector
K. Hishida, A. Ando and M. Maeda	181	Experiments on particle dispersion in a turbulent mixing layer
P. E. Lisseter and A. C. Fowler	195	Bubbly flow—I. A simplified model
P. E. Lisseter and A. C. Fowler	205	Bubbly flow—II. Modelling void fraction waves
K. F. Armstrong, S. D. Parrott, G. E. Sims, H. M. Soliman and V. S. Krishnan	217	Theoretical and experimental study of the onset of liquid entrainment during dual discharge from large reservoirs
H. M. Soliman and G. E. Sims	229	Theoretical analysis of the onset of liquid entrainment for orifices of finite diameter
K. Bendiksen and M. Espedal	237	Onset of slugging in horizontal gas–liquid pipe flow
C. J. Crowley, G. B. Wallis and J. J. Barry	249	Validation of a one-dimensional wave model for the stratified-to-slug flow regime transition, with consequences for wave growth and slug frequency
P. Deligiannis and J. W. Cleaver	273	Determination of the heterogeneous nucleation factor during a transient liquid expansion
A. R. Hasan and C. S. Kabir	279	Two-phase flow in vertical and inclined annuli
J. Petlicki and T. G. M. van de Ven	295	Distribution in the various types of particle trajectories near freely rotating spheroids in simple shear flow
Brief Communication **V. Bontozoglou**	307	Large-amplitude Kelvin–Helmholtz waves in gas–liquid flows
	I	Announcements

Number 3

V. E. Nakoryakov, V. V. Kuznetsov and O. V. Vitovsky	313	Experimental investigation of upward gas–liquid flow in a vertical narrow annulus
M. Açikgöz, F. França and R. T. Lahey Jr	327	An experimental study of three-phase flow regimes

V. V. Dubrovsky, A. M. Podvysotsky and A. A. Shraiber	337	Particle interaction in three-phase polydisperse flows
Q. Hassonjee, R. Pfeffer and P. Ganatos	353	Behavior of multiple spheres in shear and Poiseuille flow fields at low Reynolds number
Y. A. Hassan, T. K. Blanchat, C. H. Seeley Jr and R. E. Canaan	371	Simultaneous velocity measurements of both components of a two-phase flow using particle image velocimetry
M. Mizukami, R. N. Parthasarathy and G. M. Faeth	397	Particle-generated turbulence in homogeneous dilute dispersed flows
R. W. Gross and J. M. Kuhlman	413	Three-component velocity measurements in a turbulent recirculating bubble-driven liquid flow
H. C. Kang and M. H. Kim	423	The development of a flush-wire probe and calibration method for measuring liquid film thickness
O. J. Nydal, S. Pintus and P. Andreussi	439	Statistical characterization of slug flow in horizontal pipes
T. Nakagawa	455	Rivulet meanders on a smooth hydrophobic surface
Brief Communication **N. Andritsos**	465	Statistical analysis of waves in horizontal stratified gas–liquid flow
	475	Book Review
	I	Announcements

Number 4

Z. Fan, W. P. Jepson and T. J. Hanratty	477	A model for stationary slugs
L. Zhao and R. L. Cerro	495	Experimental characterization of viscous film flows over complex surfaces
D. Hatziavramidis	517	Stability of thin evaporating/condensing films in the presence of surfactants
I. Owen, A. Abdul-Ghani and A. M. Amini	531	Diffusing a homogenized two-phase flow
N. Brauner and D. Moalem Maron	541	Analysis of stratified/non-stratified transitional boundaries in inclined gas–liquid flows
D. Hansell, I. M. Kennedy and W. Kollmann	559	A simulation of particle dispersion in a turbulent jet

C. M. Atkinson and **H. K. Kytömaa** 577 Acoustic wave speed and attenuation in suspensions

H. J. Keh and **F. R. Yang** 593 Particle interactions in osmophoresis

Brief Communications

P. Doron and **D. Barnea** 617 Effect of the no-slip assumption on the prediction of solid–liquid flow characteristics

J. Weisman and **L. Du** 623 Computation of the effect of heat addition on interfacial shear in bubbly flow

633 Book Review

I Announcement

Number 5

L.-P. Hsiang and **G. M. Faeth** 635 Near-limit drop deformation and secondary breakup

N. A. Tsochatzidis, T. D. Karapantsios, M. V. Kostoglou and **A. J. Karabelas** 653 A conductance probe for measuring liquid fraction in pipes and packed beds

D. R. Chenoweth and **S. Paolucci** 669 Compressible flow of a two-phase fluid between finite vessels—II. Abel–Noble carrier gas

Y. A. Sergeev and **G. B. Wallis** 691 Concentration/density shocks in an inertially-coupled two-phase dispersion

A. I. Shnip, R. V. Kolhatkar, D. Swamy and **J. B. Joshi** 705 Criteria for the transition from the homogeneous to the heterogeneous regime in two-dimensional bubble column reactors

O. E. Ivashniov and **K. I. Soplenkov** 727 A model involving break-up to explain peculiarities of the boiling liquid efflux process

Y. Solomentsev, A. Kotov and **V. Starov** 739 Hydrodynamical interaction of two particles covered with a porous layer

T. Dabros and **T. G. M. van de Ven** 751 Hydrodynamic interactions between two spheres near a solid plane

J. Zhu and **M. G. Satish** 765 Non-Newtonian effects on the drag of creeping flow through packed beds

Brief Communication

Z. Yuan and **E. E. Michaelides** 779 Turbulence modulation in particulate flows—a theoretical approach

I Announcement

Number 6

F. França and **R. T. Lahey Jr**	787	The use of drift-flux techniques for the analysis of horizontal two-phase flows
J. L. Binder and **T. J. Hanratty**	803	Use of Lagrangian methods to describe drop deposition and distribution in horizontal gas–liquid annular flows
D. Barnea and **Y. Taitel**	821	Structural and interfacial stability of multiple solutions for stratified flow
R. van Hout, L. Shemer and **D. Barnea**	831	Spatial distribution of void fraction within a liquid slug and some other related slug parameters
S. Jayanti and **G. F. Hewitt**	847	Prediction of the slug-to-churn flow transition in vertical two-phase flow
B. J. Azzopardi and **P. A. Smith**	861	Two-phase flow split at T junctions: effect of side arm orientation and downstream geometry
Y. M. Chen and **F. Mayinger**	877	Measurement of heat transfer at the phase interface of condensing bubbles
C. J. Call and **I. M. Kennedy**	891	Measurements and simulations of particle dispersion in a turbulent flow
M. Sommerfeld	905	Modelling of particle–wall collisions in confined gas–particle flows
S. Pedinotti, G. Mariotti and **S. Banerjee**	927	Direct numerical simulation of particle behaviour in the wall region of turbulent flows in horizontal channels
A. Soria and **H. I. de Lasa**	943	Averaged topological equations for dispersed two-phase flows
D. Musmarra, S. Vaccaro, M. Filla and **L. Massimilla**	965	Propagation characteristics of pressure disturbances originated by gas jets in fluidized beds
A. A. K. Tehrani, M. A. Patrick and **A. A. Wragg**	977	Dynamic fluid flow behaviour of a tank draining through a vertical tube
G. B. Wallis	989	Macroscopic properties of a two-phase potential dispersion composed of identical unit cells
J. A. Stoos, S.-M. Yang and **L. G. Leal**	1019	Hydrodynamic interaction of a small fluid particle and a spherical drop in low-Reynolds number flow
A. M. Kraynik and **D. A. Reinelt**	1045	Extensional motions of spatially periodic lattices

V. Ilic, D. Tullock, N. Phan-Thien and **A. L. Graham** 1061 Translation and rotation of spheres settling in square and circular conduits: experiments and numerical predictions

J. F. T. Pittman and **N. Kasiri** 1077 The motion of rigid rod-like particles suspended in non-homogeneous flow fields

I Announcements